WHAT IS CLAIMED IS:

1. A semiconductor device comprising:

a semiconductor layer having a crystalline structure on an insulating surface, the semiconductor layer having at least a source region, a drain region and a channel region,

wherein the channel region contains a rear gas element having a concentration gradient.

2. A semiconductor device according to claim 1, wherein the rear gas element is one or a plurality of elements selected from the group consisting of He, Ne, Ar, Kr and Xe.

3. A semiconductor device according to claim 1, wherein the semiconductor device is a liquid crystal display device.

4. A semiconductor device according to claim 1, wherein the semiconductor device is an EL display device.

5. A semiconductor device according to claim 1, wherein the semiconductor device is at least one selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle type display, a player using a recording medium, a digital camera, a projector, a portable telephone, and a portable book.

6. A semiconductor device comprising:

a semiconductor layer having a crystalline structure on an insulating surface, the semiconductor layer having at least a source region, a drain region and

a channel region,

an insulating film on the semiconductor layer,

wherein a rear gas element is contained between the channel region and the insulating film.

7. A semiconductor device according to claim 6, wherein the rear gas element is one or a plurality of elements selected from the group consisting of He, Ne, Ar, Kr and Xe.

8. A semiconductor device according to claim 6, wherein the semiconductor device is a liquid crystal display device.

9. A semiconductor device according to claim 6, wherein the semiconductor device is an EL display device.

10. A semiconductor device according to claim 6, wherein the semiconductor device is at least one selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle type display, a player using a recording medium, a digital camera, a projector, a portable telephone, and a portable book.

11. A semiconductor device comprising:

a first semiconductor layer having a crystalline structure on an insulating surface;

a second semiconductor layer in contact with the first semiconductor layer;

an insulating film in contact with the second semiconductor layer; and

an electrode in contact with the insulating film,

wherein the second semiconductor layer contains a rear gas element.

12. A semiconductor device according to claim 11, wherein the second semiconductor layer has a crystalline structure.

13. A semiconductor device according to claim 11, wherein the second semiconductor layer has an amorphous structure.

14. A semiconductor device according to claim 11, wherein the rear gas element is one or a plurality of elements selected from the group consisting of He, Ne, Ar, Kr and Xe.

15. A semiconductor device according to claim 11, wherein the semiconductor device is a liquid crystal display device.

16. A semiconductor device according to claim 11, wherein the semiconductor device is an EL display device.

17. A semiconductor device according to claim 11, wherein the semiconductor device is at least one selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle type display, a player using a recording medium, a digital camera, a projector, a portable telephone, and a portable book.

18. A semiconductor device comprising:

a semiconductor layer having a crystalline structure on an insulating surface;

a gate insulating film adjacent to the semiconductor layer,

wherein the semiconductor layer contains a rear gas element having a

concentration gradient along a direction perpendicular to the insulating surface.

19. A semiconductor device according to claim 18, wherein the rear gas element is one of a plurality of elements selected from the group consisting of He, Ne, Ar, Kr and Xe.

20. A semiconductor device according to claim 18, wherein the semiconductor device is a liquid crystal display device.

21. A semiconductor device according to claim 18, wherein the semiconductor device is an EL display device.

22. A semiconductor device according to claim 18, wherein the semiconductor device is at least one selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle type display, a player using a recording medium, a digital camera, a projector, a portable telephone, and a portable book.

23. A semiconductor device comprising:

a semiconductor layer having a crystalline structure on an insulating surface;

a gate insulating film adjacent to the semiconductor layer,

wherein the semiconductor layer contains a rear gas element, a first portion of the semiconductor layer having a higher concentration of the rare gas element than a second portion of the semiconductor layer, wherein the first portion is closer to the gate insulating film than the second portion.

24. A semiconductor device according to claim 23, wherein the rear gas

element is one of a plurality of elements selected from the group consisting of He, Ne, Ar, Kr and Xe.

25. A semiconductor device according to claim 23, wherein the semiconductor device is a liquid crystal display device.

26. A semiconductor device according to claim 23, wherein the semiconductor device is an EL display device.

27. A semiconductor device according to claim 23, wherein the semiconductor device is at least one selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle type display, a player using a recording medium, a digital camera, a projector, a portable telephone, and a portable book.

28. A method for manufacturing a semiconductor device comprising the steps of:

adding a metal element to a first semiconductor film having an amorphous structure;

crystallizing the first semiconductor film;

forming a barrier layer on a surface of the first semiconductor film after the crystallizing step;

forming a second semiconductor film on the barrier layer;

adding a rear gas element to the second semiconductor film;

gettering the metal element to the second semiconductor film to selectively remove or reduce the metal element in the first semiconductor film; and

removing the second semiconductor film.

29. A method for manufacturing a semiconductor device according to claim 28, wherein the rear gas element is added also to the first semiconductor film.

30. A method for manufacturing a semiconductor device according to claim 28, wherein a region selectively added with the rear gas element is formed in a part of the first semiconductor film.

31. A method for manufacturing a semiconductor device according to claim 28, wherein the rear gas element is added also to the first semiconductor film to form a layer containing the rear gas element.

32. A method for manufacturing a semiconductor device according to claim 28, wherein the gettering step is conducted by a heat treatment.

33. A method for manufacturing a semiconductor device according to claim 28, wherein the gettering step is conducted by irradiating the first semiconductor film with a light.

34. A method for manufacturing a semiconductor device according to claim 28, wherein the gettering step is conducted by a heat treatment and irradiating the first semiconductor film with a light after the heat treatment.

35. A method for manufacturing a semiconductor device according to claim 33, wherein the light is at least one selected from the group consisting of a halogen lamp light, a metal halide lamp light, a xenon arc lamp light, a carbon arc lamp light, a high-pressure sodium lamp light, and a high-pressure mercury lamp light.

36. A method for manufacturing a semiconductor device according to claim 28, wherein the metal element is one or a plurality of elements selected from the group consisting of Fe, Ni, Co, Ru, Rh, Pd, Os, Ir, Pt, Cu and Au.

37. A method for manufacturing a semiconductor device according to claim 28, wherein the rear gas element is one or a plurality elements selected from the group consisting of He, Ne, Ar, Kr and Xe.

38. A method for manufacturing a semiconductor device according to claim 28, wherein the semiconductor device is a liquid crystal display device.

39. A method for manufacturing a semiconductor device according to claim 28, wherein the semiconductor device is an EL display device.

40. A method for manufacturing a semiconductor device according to claim 28, wherein the semiconductor device is at least one selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle type display, a player using a recording medium, a digital camera, a projector, a portable telephone, and a portable book.